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ABSTRACT

Ninety-three percent of Ontario's community health supervisors participated in a study investigating the impact of educational preparation on leadership effectiveness. The Fiedler Contingency Model of Leadership Effectiveness provided the study's rationale. Each supervisor completed: (1) a Least Preferred Coworker (LPC) scale to determine whether the supervisor was person- or task-oriented, (2) a groups atmosphere scale, and (3) a short biographical data form. The effectiveness of each supervisor's unit was assessed by the nursing director to whom the supervisor reported. Analysis of the data confirmed the hypotheses that, in favorable situations, groups led by low LPC (task-oriented) supervisors are more effective than groups led by high LPC supervisors; and that, in only moderately favorable situations, groups led by high LPC supervisors are more effective than groups led by low LPC supervisors. Since educational training was assumed to increase the favorability of work situations, it was further hypothesized that baccalaureate training would improve the performance of both high LPC and low LPC supervisors in favorable situations, but would lower the performance of low LPC supervisors in moderately favorable situations. These hypotheses were also upheld. (PGD)

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ASSESSING THE IMPACT OF EDUCATION ON LEADERSHIP EFFECTIVENESS OF GRADUATES

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ASSESSING THE IMPACT OF EDUCATION ON LEADERSHIP EFFECTIVENESS OF GRADUATES

Until recently it has been almost impossible to demonstrate that leadership training is an effective strategy to improve organizational performance. While it has been demonstrated that sensitivity training improves group cohesiveness, it has been noted that this form of training decreases group productivity. Through human relations training, attitudes have been changed, but little evidence has been obtained regarding a lasting change in overt organizational effectiveness (Stogdill, 1974). This study focuses on a dyad of leadership effectiveness and organizational climate, because together they impact on leadership effectiveness. Beyond this point, the study illustrates, on the basis of empirical data, how education modifies the leader's control and influence and thus modifies the effectiveness of the leader within an organization. Natural groups existing under normal field conditions were utilized for this study. Following the dictates of Fiedler's theoretical framework (Fiedler, 1967) a set of predictions were postulated and these were supported by the data. The study thus can serve as a model for examining the evaluation of educational effectiveness in field settings.

Rationale

The responsibilities of the supervisors in community health settings have been identified as the promotion of quality nursing care in community health practice, and staff development for goal achievement.

Faced with rising costs of health care and anecdotal evidence of inadequate services, efforts are being directed towards improving the efficiency of health care services by a more effective use of human resources. One suggested means for improving efficiency and effectiveness has been the development of supervisory leadership skills. Traditionally, a nurse's training has been oriented to professional and technical skills. However, nurses have also filled roles requiring additional sets of skills to manage subordinates. Many supervisors of community health nursing fall into the category of experienced practitioners rather than trained administrators. There is also the uncertainty whether nurses with a baccalaureate degree perform administrative tasks and leadership roles more effectively than do nurses who do not have such a background (Nelson, 1978, 121-5). The literature on this topic reveals contradictory evidence concerning the relationships between educational preparation and performance of nursing supervisors (Gray, Murray, Roy & Sawyer, 1977; Meleis & Farrell, 1974; Nelson, 1978; Welsh et al., 1974).

It is through the leadership process that the nurse supervisor influcences the actions of others, her staff or group members, in goal determination and achievement within the organizational structure. Within the leadership role, the supervisor carries the major responsibility for energizing ad promoting change in her group members in the direction of the expected organizational outcomes.

The purpose of this study was to explore the influence of a baccalaureate training of nursing supervisors on the effectiveness of their public health units. The study was designed in the context of the Fieldler Contingency Model of Leadership Effectiveness in which the effectiveness of a work group is hypothesized to vary with interaction of leadership style and factors influencing the work situation.

Nursing Education

Members of the nursing profession must complete rigorous training and educational programs. To understand some of the terms in this study, a brief review of the available types of nursing training programs follows.

The diploma in nursing is a two to three year course of study offered by hospital schools of nursing, and more recently by

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post-secondary educational institutions which are often community colleges. Graduates are prepared to be competent staff nurses in acute care hospitals. The program content is generally of a theoretical and clinical nature and includes extensive practical clinical experience. This program leads to a professional license to practice nursing. The Certificate in Public Health is a one year university level post-diploma course. Graduates are prepared to function as staff nurses in public health agencies. The program includes the organization of the health care system, preventive medecine, public health nursing and a full course in psychology and sociology. Public health nurses in Ontario must possess either the Certificate in Public Health or a baccalaureate degree in nursing. The Baccalaureate in nursing, a four or five year university program, prepares graduates for careers in hospital or public health nursing, and leads to graduate studies. The hallmark of the graduate is the ability to demonstrate leadership in the practice of nursing (Ontario Region Canadian Conference of Universty Schools of Nursing, 1979). The program of studies is interdisciplinary, including the humanities, basic sciences and clinical nursing sciences. There is a required full course in leadership in nursing whch includes the study of administrative principles. In three other courses, training in clinical management is stressed. In addition, a number of elective courses with related course content are available to the students.

The baccalaureate was seen as providing the nurse with the leadership skills required for both the professional and organizational dimensions of her role as a nurse administrator.

Loyer & O'Reilly

In Ontario, leadership positions in public health have typically gone to nurses who have either completed the baccalaureate degree or who have obtained the diploma followed by the one year certificate. Supervisors are usually promoted within the employing agency after several years of experience.

Theoretical Framework

The Fiedler Contingency Model of Leadership Effectiveness was chosen as the conceptual framework for this study because it provides a rationale for examining the influence of education on organizational performance when education is perceived in context with a number of other pertinent variables. The model's primary hypothesis is that the effectiveness of a leader is contingent upon the interaction between certain qualities of the leader and certain characteristics of the work situation. The basic assumption of the model is that no one leadership style is to be considered the most effective for all situations.

The basic elements of the theory are as follows.

> Leadership style : Leadership style is defined as the under-lying need structure of the individual which motivates her behavior in various leadership situations. Interpersonal perception is seen as a reliable manifestation of leadership style. This is operationalized with a semantic differential scale called the least-preferred co-worker (LPC) scale. A leader who rates his least preferred co-worker highly is understood to seek good interpersonal relationships and secondarily attaining prominence and self-enhancement in the group (Fielder,

1967). Operationally, a score above 64 on the LPC scale designates a high LPC leader.

The low LPC leader describes the least preferred co-worker in very negative terms. The primary goal of the low LPC leader is task achievement, while the secondary goal is achieving good interpersonal relationships. Operationally, a score of 57 or less on the LPC scale identifies a low LPC leader.

Situational Favorableness . One set of contingency variables describes the extent to which the leader is likely to have control over the work setting, and thus the ease with which she is able to influence team members. The three original variables identified by Fiedler are: (1) Group Atmosphere , that is the quality of the interpersonal relations between the leader and the group members, particularly their acceptance of the leader; (2) task structure , or the degree to which the group's task is well defined and there is goal clarity; and position power , or the leader's formal position power, including the ability to reward or punish group members.

The Variables Position Power and Task Structure are organizationally determined and are expected to remain constant within the same type of organization. These variables were assessed for community health nursing agencies using the scales recommended by Fiedler (1967, Appendix D). The situations were rated as being favorable to the leader: The task of the agencies were described as "structured" and the position power of the leader was rated as being "strong".

The group atmosphere or leader-member relations is expected to vary from one supervisory unit to another. This variable was measured by administering the group atmosphere scale which is a semantic differential scale. Using normative data, units were rated as having poor or good relations. Units with scores of 66 or above were rated as having good group atmosphere, whereas those that scored less than

66 were rated as having a poor atmosphere.

For purposes of this study, nurse supervisors who completed the baccalaureate degree in nursing are considered to be better prepared for the leadership role in public health units than those nurses without the degree. Possession of this qualification is equated with Fiedler's variable training .

Organizational Effectiveness

The effectiveness of each public health nursing unit was assessed by the nursing directors to whom the nursing supervisors reported. The measuring instrument was an adaptation of the Georgopolous and Mann (1962) effectiveness scale which uses a goal approach. Objectives for public health nursing units were devised in accordance with the set of objectives set for nursing units by the Canadian Public Health Association (1977). The modified instrument contains an overall organizational effectiveness item, followed by six specific goal items. The validity and reliability of the instrument were confirmed in a pilot study. The original Georgopolous and Mann scale was developed to gain comparative ratings of effectiveness of community hospitals. Various adaptations of the scale have been successfully used in a number of educational studies (O'Reilly & Knoop, 1979; Viney & O'Reilly, 1981).

Hypotheses

In the general contingency model, Fiedler postulates that when the situation is unfavorable to the leader, leaders will behave in accordance with their primary orientations; when the situation is more favorable, the behavior of leaders tends to be more in keeping with secondary goals. In favorable, non-threateneing situations, leaders with high LPC scores attend to task activities and will achieve organizational goals. Meanwhile the leaders with low LPC scores will tend to be concerned with interpersonal relations at the expense of achieving organizational goals.

Conversely, in less favorable situations (labelled moderately favorable in Fielder's model) high LPC leaders' behaviors will be motivated by a need for good interpersonal relationships and the achievement of organizational goals will suffer, whereas the low LPC leader will focus on goal-oriented activities and tend to achieve success. Figure 1 graphically summarizes the hypothetical relationships between leader style as suggested by LPC scores, situational favorableness and organizational effectiveness. In the more formal format of hypotheses, the following are typical of studies which employ the Fiedler model:

H.1.a. In favorable situations, groups led by low LPC supervisors have higher group effectiveness scores than groups led by high LPC supervisors.

H.1.b. In moderately favorable situations, groups led by high LPC supervisors have higher groups effectiveness scores than groups led by low LPC supervisors.

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Figure 1 about here

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Empirical studies have often failed to demonstrate that leadership training improves organizational performance. Fielder (1972) has hypothesized that the effects of training are not universally successful — one effect of additional training is to enhance the favorableness of the situation for the leader in that training makes the task of management somewhat easier. In one study, Csoka & Fiedler (1972) found that in moderately favorable situations trained high LPC leaders were more effective than untrained high LPC leaders; in similar situations the trained low LPC leaders were less effective than their untrained counterparts. Figure 2 illustrates the effects of training on situational favorableness.

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Figure 2 about here

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The postulated effects of baccalaureate education as a form of training are depicted in the following hypotheses:

H.2.a.i. In favorable situations, groups led by high LPC supervisors without training will have higher group effectiveness scores than groups led by high LPC supervisors with training .

H.2.a.ii. In favorable situations, groups led by low LPC supervisors with training will have higher group effectivess scores than groups led by low LPC supervisors without training .

H.2.b.i. In moderately favorable situations, groups led by low LPC supervisors without training will have higher group effectiveness scores than groups led by low LPC supervisors with training .

H.2.b.ii. In moderately favorable situations, groups led by high LPC supervisors with training will have higher groups effectiveness scores that groups led by high LPC supervisors without training .

Sample and Design

The investigation was an ex post facto study carried out in the health units of official agencies in Ontario. The relationships between the achievement of organizational goals by the supervisory groups of community health nurses, the leadership style (as imputed by LPC scores) of their supervisors, and the situational favorableness which was operative in these groups at the time of the study, were examined. The study population was composed of 138 supervisory groups distributed among 43 public health units of the Province of Ontario. The directors of nursing of the units were asked to rate each supervisory unit as to its accomplishment of its goals using the adapted Georgopolous and Mann instrument. To qualify for the study, each supervisor had to have at least two nurses reporting to her and needed to have been in the role for at least two years so that her influence could be related to goal achievement. Each of the supervisors was asked to complete the following instruments: the least preferred co-worker (LPC) scale, the groups atmosphere scale, and a short biographical data form. The study was carried out by mailed questionnaires.

Data Analysis

Leaders were divided into groups on the basis of whether they

possessed a baccalaureate degree in nursing, and their LPC score. Groups were identified as having good or poor leader-member relations on the basis of the group atmosphere scale scores. The result was a 2 x 2 x 2 matrix. The effectiveness scores (the dependent variable) for each supervisory group were calculated. An analysis of the intercorrelations among the seven sub-scores of the effectiveness indicated high r values, so it was decided to employ the mean of the sub-scores as the effectiveness score in the testing of the hypotheses. The six hypotheses were tested by contrasting means of effectiveness scores, using the conservative Scheffe (Myers, 1979, p. 311) method. This test was selected because it provided for the unequal size of the groups.

Results

Replies were provided by 138 supervisors, representing 93% of the community health supervisors in the Province of Ontario. Since five of the questionnaires were incomplete, the data of 133 were used in the analysis. The performance of these 133 groups were rated by the 43 directors of nursing.

It was found that 51% of the supervisors had LPC scores of 64 or higher and were classified as high LPC leaders, whereas 38% fell in the low LPC category. In terms of group atmosphere, 59% of the groups were classified as good and 41% were considered to have poor atmospheres. Sixty-three per cent of the supervisors had the baccalaureate degree in nursing.

Relationships among the variables . One premise of the Contingency Model is that there are no necessary relationships between any one of the independent variables and the dependent variable. The matrix of Pearson product-moment correlations revealed that organizational effectiveness was not related to any of the independent variables, and that none of the independent variables intercorrelated.

The data for the six hypotheses are shown in Table I, which displays the means, standard deviations and n for each of the twelve types of supervisory groups.

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Table I about here

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The contrasts and the tests of the hypotheses are shown in Table II. Each off the six hypotheses are supported.

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Table II about here

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The prediction that Fiedler's Contingency Model of leadership effectiveness would apply to supervisory groups in community health nursing received strong support from this study. In favorable situations, groups led by experienced supervisors with low LPC scores

performed better than those led by nurses with high LPC scores (hypothesis H.1.a.). In moderately favorable situations, groups led by experienced supervisors with high LPC scores performed better than those led by supervisors with low LPC scores (hypothesis H.1.b.).

Fielder had stated that training probably enhances the favorability of the situation for the leader. In this study, the completion of a university degree in nursing which contained clinical, professional and leadership training components, was considered to be "training" within the framework of the Fiedler model. Again, the data supported the hypotheses. In favorable situations, if the experienced supervisors had high LPC scores, groups led by nurses with the baccalaureate performed better than groups led by nurses without the baccalaureate (hypothesis H.2.a.i.). In similar situations, but where the leaders had low LPC scores, the university degree background is associated with better performance (hypotheses H.2.a.ii.).

In moderately favorable situations, the effect of education is to improve the situational favorability. Thus for low LPC leaders, possession of the baccalaureate is related to improved performance (Hypothesis H.2.b.i.) and for high LPC leaders the absence of such a background is related to better performance (hypothesis H.2.b.ii.).

Discussion

Research based on the Contingency Model has suggested means of improving leadership effectiveness by matching individuals in

leadership positions according to leadership style and job characteristics (Fielder, Chemers & Mahar, 1976). Since there is evidence that training can modify the job situation, the Contingency Model provided a theoretical rationale and empirical support for predicting the effects of baccalaureate training of the supervisor on the performance of community health units in one Canadian province. In addition, insights gained from testing the predictive value of the Contingency Model provides a basis for a management program aimed at improving organizational performance.

As illustrated in the findings of this study, the leadership style of the supervisors was negatively or positively related to the effective achievement of nursing service goals depending on whether or not the group atmosphere in which they found themselves was good or moderately poor. As predicted by the Contingency Model, no relationship between training and effectiveness was found in the current study. Training was identified as a modifier of situational favorableness. The real criterion of the effect of training is whether or not it results in a change in the performance of the group that is supervised by the trained leader. This study confirms that training modifies situational favorableness and therefore can be functional or detrimental for group effectiveness.

These findings constitute a major step in confirming the application of Fiedler's Contingency Model to community health nursing. The results enable us to accept the legitimacy of two routes to nursing leadership positions, one based on university nursing

education, the other consisting of basic diploma and certificate courses and appropriate experience. The rational management of administrative personnel should also take into consideration the situation in which the leader works. In some circumstances, the advanced training afforded leaders may disrupt the balance in an effective working group. This possibility should be considered in any supervisor selection, placement, staff development and evaluation process.

This field study was carried out in one sector of the health disciplines to assess the impact of nursing baccalaureate education on the performance of graduates as supervisors. It must call the attention of educators to the relevancy of educational programs in terms of career goals of graduates, consistent with the socio-economic support afforded public health in society. The study demonstrates for the functional utilization of the Fiedler Contingency Model as a method to examine leadership effectiveness within the nursing profession.

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Table I

Descriptive Statistics Of Effectiveness Scores Of Different Types Of Supervisory Groups, Classified According to LPC, GA and Training

Hypothesis	Group Type	Supervisors and Group Characteristics	N	Mean	S.D.
H.2.a.i.		GOOD GROUP ATMOSPHERE:			
	1	High LPC Supervisors without Baccalaureate	14	4.61	0.54
	2	High LPC Supervisors with Baccalaureate	18	3.88	0.30
H.2.a.ii.		GOOD GROUP ATMOSPHERE:			
	3	Low LPC Supervisors with Baccalaureate	19	5.70	0.45
	4	Low LPC Supervisors without Baccalaureate	12	4.92	0.34
H.2.b.i.		MODERATELY POOR GROUP ATMOSPHERE:			
	5	Low LPC Supervisors without Baccalaureate	9	4.80	0.56
	6	Low LPC Supervisors with Baccalaureate	8	3.96	0.18
H.2.b.ii.		MODERATELY POOR GROUP ATMOSPHERE:			
	7	High LPC Supervisors with Baccalaureate	15	5.69	0.45
	8	High LPC Supervisors without Baccalaureate	9	4.86	0.28
H.1.a.		GOOD GROUP ATMOSPHERE:			
	9	Low LPC Supervisors (Types 3 and 4)	31	5.40	0.58
	10	High LPC Supervisors (Types 1 and 2)	32	4.20	0.56
H.1.b.		MODERATELY POOR GROUP ATMOSPHERE:			
	11	High LPC Supervisors (Types 7 and 8)	24	5.38	0.57
	12	Low LPC Supervisors (Types 5 and 6)	17	4.41	0.60

Table II

TESTING OF HYPOTHESES: CONTRAST BY THE SCHEFFÉ METHOD

TESTING OF HYPOTHESES	CONTRAST	$\hat{\psi}$	LIMITS LOWER	LIMITS UPPER
H.2.a.i.	$M_1 - M_2$	-0.771	-1.033	-0.429*
H.2.a.ii.	$M_3 - M_4$	0.770	0.458	1.082*
H.2.b.i.	$M_5 - M_6$	-0.846	-1.258	-0.434
H.2.b.ii.	$M_7 - M_8$	0.836	0.478	1.194*
H.1.a.	$M_9 - M_{10}$	-1.199	-1.413	-0.985*
H.1.b	$M_{11} - M_{12}$	0.969	0.700	1.238*

NOTE:

(a) DATA FROM TABLE

(b) $\alpha = 0.05$ FOR ALL CONTRASTS

(c) $MS_e = 0.183$; df. = 96

Figure 1

CONTINGENCY MODEL OF LEADERSHIP EFFECTIVENESS

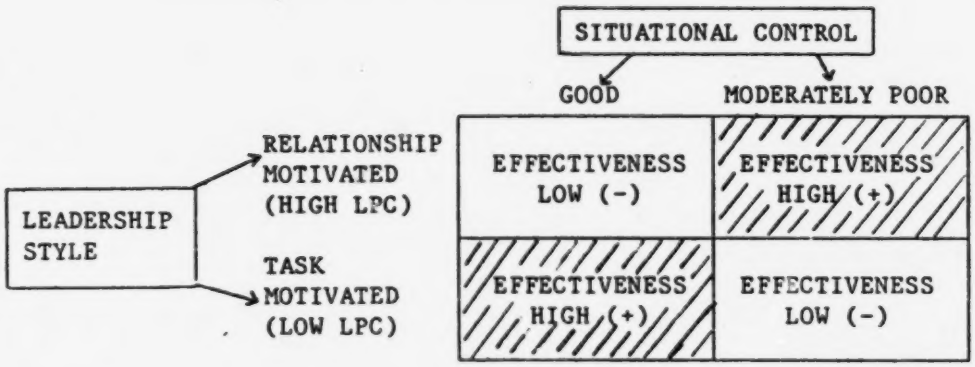

Figure 2

FAVORABLENESS OF THE SITUATION

	VERY FAVORABLE	INTERMEDIATE FAVORABLE	NOT FAVORABLE
RELATIONSHIP MOTIVATED LEADER	POOR PERFORMANCE	GOOD PERFORMANCE	POOR PERFORMANCE
TASK MOTIVATED LEADER	GOOD PERFORMANCE	POOR PERFORMANCE	GOOD PERFORMANCE

THE EFFECTS OF TRAINING AND EXPERIENCE ON PERFORMANCE IN THREE TYPES OF SITUATIONAL FAVORABLENESS (Fieldler, 1972, (b) p.115).